

CALIFORNIA ENERGY COMMISSION
Public Interest Energy Research Program (PIER)
Notification of Proposed Awards
and Results of Submitted Proposals



23-Jun-98

Energy Related Environmental Research: Proposed Awards

Applicant	Project Title	Amount Requested	Total Score	Rank
85 University of California - Santa Cruz	Golden Eagles in a Perilous Landscape: Tracking the Effects of Mitigation for Energy Based Mortality	\$675,121	557	1
16 Edison Technology Solution	Electrotechnology Application for Potable Water Production & Protection of the Environment	\$2,889,678	526	2
92 EPRI	Assessment of the Costs and Impacts of Global Climate Change - California Implications & Potential Costs	\$2,159,800	519	3

Total Proposed Energy Related Environmental Research Awards = \$5,724,599

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Environmentally Preferred Advanced Generation: Proposed Award

Applicant	Project Title	Amount Requested	Total Score	Rank
66 M-C Power Corporation	75-kW MCFC Power Plant Verification Test Project	\$1,000,000	587	1
56 AeroVironment Inc.	Ultra-High-Efficiency Packaged Microcogeneration System	\$1,035,420	581	2
154 Alzeta Corporation	Low NOx Gas Turbine Combustors for Distributed Power Generation	\$878,788	581	3
50 Energy & Environmental Research	A Novel Steam Reforming Reactor for Fuel Cell Distributed Power Generation	\$349,852	568	4
42 Westinghouse Electric Company	Megawatt-Class Pressurized Solid Oxide Fuel Cell/Gas Turbine Power System Demonstration	\$550,000	545	5
185 Catalytica Combustion Systems, Inc.	Durability of Catalytic Combustion Systems	\$1,316,303	542	6
63 Gas Research Institute	Energy Efficient, Low Emission, Cost Effective MicroPilot Ignited Natural Gas Engine Driven Genset for Deregulated, Distributed Power	\$982,528	517	7

Total Proposed Environmentally Preferred Advanced Generation Awards = \$6,112,891

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Renewables: Proposed Awards

Applicant	Project Title	Amount Requested	Total Score	Rank
79 Powerlight Corporation	Powertherm Product Development	\$542,362	581	1
69 Utility Power Group, Inc.	Residential Electric Power Security	\$426,343	567	2
47 Electromagnetic Instruments	Development of an Extended Logging Tool for Geothermal Exploration and Field Development	\$1,380,709	563	3
126 EDTEK	Hybrid Solar-Fossil Thermophotovoltaics	\$867,945	560	4
21 Powerwheel Associates	Powerwheel Demonstration	\$200,000	552	5
171 Powerlight Corporation	Powerguard California Manufacturing	\$958,991	546	6
135 The Wind Turbine Company	The Next Generation Turbine Development Project	\$950,000	543	7
144 Gas Research Institute	Natural Gas Cofiring in Biomass Fueled Boilers	\$655,702	517	8
104 Bergquam Energy Systems	Design & Optimization of a Solar Fired 2E Absorption Chiller	\$150,000	514	9
150 SMUD	PVUSA Power Conditioning Unit Test Center	\$374,847	512	10

Total Proposed Renewables Awards = \$6,506,899

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Notification of Finalist

Applicant		Project Title	Amount Requested	Total Score	Rank
Energy Related Environmental Research					
109	EPRI	Central California Ozone Study	\$2,050,777	499	4
115	EPRI	Watershed Protection: Managing California's Ecological Resources	\$353,100	483	5
76	Lawrence Berkeley National Lab	Relation of Ventilation Rate to Absence Caused by Illness in California Public Schools	\$598,782	475	6
6	Humboldt State University Foundation	Advanced Fish Models for Hydropower	\$298,505	472	7
132	Southern California Edison	South Coast Air Basin Fine Particulate Study	\$900,000	464	9
40	Atmospheric & Environmental Research	PM-2.5 Nitrate Formation in Power Plant Plumes: Modeling and Measurements	\$449,779	464	8
Environmentally Preferred Advanced Generation					
25	Exergy, Inc.	Livingston Demonstration Project	\$1,964,000	512	8
100	Solar Turbines Incorporated	Catalytic Combustion System for Industrial Gas Turbines	\$484,835	503	9
99	Solar Turbines Incorporated	Preliminary Design Study of CEC Cycle	\$87,387	484	10
101	Solar Turbines Incorporated	Ultra-Low NOx Gas Turbine for Distributed Power and Cogeneration Application	\$1,017,519	470	11
Renewables					
151	SMUD	Field Survey of PV System Output by PVUSA	\$248,517	506	11
103	Pacific Oroville Power, Inc.	Gridley/Pacific Oroville Power, Inc. Ethanol Production & Co-generation Project	\$893,970	500	12

Notification of Finalist

Applicant		Project Title	Amount Requested	Total Score	Rank
139	Augustyn & Company	California Satellite Resource Assessment Project	\$795,810	499	13
124	CalEnergy Company, Inc.	Minerals Recovery Program	\$813,669	489	14
149	SMUD	Small Systems Test Center at PVUSA	\$492,406	482	15
178	Collins Pine Company	Collins Pine Co. - BCI Cogeneration Project	\$1,149,961	480	16
14	University of California - Davis	Measurement, Prediction & Mitigation of Ash Fouling & Corrosion in Biomass Combustion	\$1,527,108	478	17
22	Brower and Company	A New Wind Resource Model and Atlas	\$129,804	464	18

Notification of Disqualification by Technical Scores

Applicant		Project Title	Amount Requested	Technical Score
Energy Related Environmental Research				
29	California State University - Sacramento	Significant Mitigation of Raptor Mortality at Altamont Pass Wind Resource Area	\$718,373	246
157	San Diego State University	California Ecosystems Response to Climate Change	\$1,810,351	240
105	W.S. Hinton & Associates	Development of Cerium-Based Catalysts for the Removal of NOx Using Methane	\$188,200	233
9	Gas Research Institute	Low-Cost Combustion Modification HAPs Control for Gas-Fired Lean Burn Reciprocating Engines in Electricity Generation, Gas	\$541,990	232
88	University of California - Davis	Environmental Management and Rights of Way	\$323,471	223
10	Alden Research Laboratory, Inc.	Proof of Conception Testing of Pilot Scale Fish Friendly Turbine	\$2,859,799	222
44	AeroVironment Environmental Services	Energy Conservation and Pollution Prevention through Green Machining Planner	\$300,554	222
77	Lawrence Berkeley National Lab	Testing High-Albedo Material & Evaluating their Energy, Air Emissions and Ozone	\$718,233	220
19	Johnson Controls, Inc.	Ventilation Control, Indoor Air Quality, and Worker Productivity	\$292,978	214
129	University of California - Riverside	Development and Analysis of Hybrid-Electric Vehicle Control Strategies	\$397,711	211
98	The BOC Group, Inc.	Low temperature oxidation of NOx, using the LoTOx system on Diesel Powered Electric Generation	\$750,000	210
75	Lawrence Berkeley National Lab	Indoor Ozone Concentrations and Energy Efficient Building Operations	\$897,900	210
168	COEN Company, Incorporated	Catalytically Enhanced Ultra Low NOx Duct Burners for Cogeneration	\$975,004	209
176	Infratech Corporation	Dynamic Recirculation and Fluidizes Bed Solvent Recovery System for California Manufacturers	\$0	207
86	Pacific Gas & Electric Company	Membrane Technologies Application in the Food Processing Industry	\$664,863	205
52	University of California - Riverside	Measurement of Methane and Ammonia Emission Factors from Area Sources	\$258,356	203
123	EPRI	Occupational Health & Safety for the Electric Industry	\$250,000	200
181	Berkeley Solar Group	Ventilation and Indoor Environment in New California Houses	\$542,000	199

Notification of Disqualification by Technical Scores

Applicant		Project Title	Amount Requested	Technical Score
61	Ebert Composites Corporation	Development of an Ultra-Low-Cost Composite Pole	\$445,821	195
122	California State University - San Diego	Geo-spatial Technologies for Habitat Management	\$444,456	189
180	Rumla, Inc.	Market-Oriented Valuation of Emission Regulation Systems (MOVERS)	\$499,743	186
147	Resource Insight	Develop Basinwise Management Tools to Increase Hydropower Public Benefits	\$280,000	183
102	Gas Research Institute	Detection and Measurement of SF6 Emissions from the Electric Utility Industry	\$667,398	181
177	ADM Associates, Inc.	Life Cycle Assessment of Environmental Performance of Technologies for Distributed Generation and/or Renewable Energy	\$287,973	176
131	Southern California Edison	Energy Facility Siting Framework	\$241,542	174
110	Redwood Rubber LLC	Manufacturing Devulcanized Rubber	\$2,970,000	173
163	University of California - Berkeley	Economic, Social, and Environmental Public Benefits Associated with California's Biomass Power Industry	\$776,979	168
32	NEOS Corporation	Lake Tahoe Basin Bioenergy Demonstration Project	\$493,459	165
12	W.S. Hinton & Associates	Mercury Removal from Coal-Fired Boiler Flue Gases Using Chemical Deposition	\$222,140	164
80	Energy 2000, Inc.	California Dairy Waste Conversion Study	\$466,000	151
84	The Garlic Company	Food Processing Waste Conversion Study	\$665,500	148
146	Resource Insight	Technique for Increasing Biodiversity and Biomass Production	\$183,420	141
38	Sonoma Technology, Inc.	A Study of Methane Emissions from Cattle Operations in California	\$699,998	141
172	University of California - Los Angeles	Optimal Design of Hybrid Power Cycles Using the State Space Approach	\$325,780	140
119	EPRI	Improved Tools for Fisheries Stewardship	\$202,350	139
155	Lawrence Berkeley National Lab	Real-time Public Access and Research on High Resolution Earthquake Monitoring of Wastewater Injection at The Geysers	\$1,100,000	133
158	University of California - Riverside	Analysis of the Environmental and Energy Effects of Electric Commercial Cooking	\$415,580	132

Notification of Disqualification by Technical Scores

Applicant		Project Title	Amount Requested	Technical Score
121	University of California - Berkeley	Rapid Methods for Assessing Public Perceptions to Energy Generation & Transmission Facilities	\$370,347	130
28	Gas Research Institute	Greenhouse Gas Emissions Model	\$342,000	125
160	Sandia National Lab	Measurement and Control of Hazardous Air Pollutant Emissions from Electric Utility Boilers	\$792,897	122
128	Natural History Museum of Los Angeles	Restoration of Coastal Fish Species Impacted by Coastal Electrical Generation	\$828,384	115
120	EPRI	Assessing Public Health Risks of Oil Gasification Sites in CA - Strategies & Methods for Cost-Effective Site Closure	\$500,000	112

Environmentally Preferred Advanced Generation

153	Alzeta Corporation	Dual-Mode Duct Burner for Improved Industrial Cogeneration System Performance	\$736,827	239
51	Gas Research Institute	Low-Cost, High-Efficiency Solid Oxide Fuel Cell Technology Demonstration for Remote and Residential Applications	\$996,812	229
2	Judd Howell & Associates	Wind Turbine Model Validation to Reduce Bird Mortality Risk	\$375,031	226
78	Lawrence Berkeley National Lab	Development of a Low-Swirl Injector to Attain 5 ppm NOx in Non-Catalytic Lean Premixed Gas Turbine Combustors	\$390,766	216
142	ARCADIS Geraghty & Miller	Reformed Biofuel for Power Generation and H2 Co-Production	\$529,664	206
68	Phenix Limited, LLC	Near-Zero NOx Burner Project	\$898,844	204
7	Gas Research Institute	Environmentally Preferred Advanced Distributed Gas Generation Project	\$311,270	204
116	EPRI	Advanced Combustion Turbine Cycles to Reduce California's Electricity Cost & Emissions	\$180,000	204
111	Collaborative Advanced Gas Turbine (CAGT)	California FMGT Demonstration Project	\$556,650	201
35	Energy Research Corporation	Development and Design of Water Independent Direct Fuel Cell Powerplant	\$1,230,349	199
23	City of Glendale, Public Service Division	Advanced Combined Cycle Power Plant	\$2,000,000	198
4	University of California - Los Angeles	Real Time Detection of Toxic Combustion Byproducts	\$326,119	196
73	Natural History Museum of Los Angeles	Risk to Native California Fish in Streams used for Hydro-Electrical Generation	\$472,383	187

Notification of Disqualification by Technical Scores

Applicant		Project Title	Amount Requested	Technical Score
156	Ecogen dba of Vinyl Master	Pulse Width Rotary Inverter	\$467,500	187
90	California Polytechnic State University	Removal of Carbon Dioxide from Gas-fired Boilers and Production of B Carotene Through Microalgal culture	\$543,317	186
46	PLASMA, Inc.	Non Emissive Cogen Project	\$3,000,000	184
54	Sandia National Laboratories	Rapid Combustion Electrical Generator	\$1,000,000	184
82	EPRI	Distributed Resources Customer Decisionmaking: Information, Demonstration, & Application	\$46,594	182
17	Take Note Company	Environmental & Economic Solutions for Small Scale Power Producers	\$414,000	173
174	Onsite Energy	Dairy Cost Reduction of Environmentally Advanced Methods (CREAM)	\$356,046	172
83	Santa Anita Enterprises	Waste materials from Horse Stables Generating Biogas	\$1,121,500	168
117	EPRI	Combustion Turbine Risk Mitigation to Reduce California Electricity Cost & Emissions	\$289,802	167
136	Power Generating, Inc.	PGI Power Systems Test	\$709,133	159
138	California State University - Sacramento	Intelligent Machine Learning for Environmentally Preferred Gas Turbine Cogeneration	\$1,277,745	154
20	Renewable Energy Development Institute	Solid Oxide Fuel Cell System	\$657,500	153
81	DeBoer & Sons Dairy	Waste Treatment on California Dairy Farms	\$352,000	148
114	EPRI	Assessing Occupational Health & Safety Issues for California's Energy Intensive Industries	\$300,000	116

Renewables

39	EPRI	Next Generation Wind Turbines: Advancing Wind Technology and Promoting Expanded Use in California	\$740,000	243
164	Solar International Energy Company Ltd.	Mojave Solar Dish Project	\$1,518,864	243
148	HFTA	Production of Electricity and Ethanol from Biomass	\$339,703	242
91	InterPhases Research	Low-Cost Fabrication for High Efficiency CIS Thin-Film Photovoltaic Modules	\$750,000	242

Notification of Disqualification by Technical Scores

Applicant		Project Title	Amount Requested	Technical Score
13	Spectrolab, Inc.	Development & Demonstration of Low Cost PV Concentrators with 30% Efficiency	\$1,281,320	240
127	University of California - Berkeley	Hydrogen Fuel Production by a Process of Microalgal Photosynthesis	\$457,996	237
37	EnerTech Environmental, Inc.	The Development of the SlurryCarb Process	\$2,370,538	237
113	EPRI	Biomass Power: Developing California Technology for Local and Global Markets	\$435,000	236
65	Gas Control Engineering, Inc.	Development of an Integrated Renewable Hydrogen Production and Utilization System	\$595,588	236
165	Waste Energy Integrated Systems, LLC	Improved Economics for Renewables Ethanol and Lignin Based Plastic From Biomass	\$1,750,000	233
36	Industrial Solar Technology Corporation	Advanced Solar Cooling: Solar Energy Powered High Efficiency Chillers	\$480,626	229
96	Renewable Energy Development Institute	Solar Electric Submicron Antenna	\$264,500	217
133	The Rahus Institute	California Wind Resource: GIS Database & Mapping Tool	\$381,845	213
106	FAS Engineering, Inc.	Advanced Tesla Turbine Heat Engine for Solar Thermal Electricity	\$290,000	213
125	Luz Solar Partners Ltd., VIII and IX	Solar Thermal Tube Refurbishment Project	\$178,200	210
34	United Solar Technologies, Inc.	PV/T: A Total Energy System	\$945,237	209
67	Southern California Edison Company	10 Mwe Solar Powerplant, "Solar Two"	\$800,000	209
184	Energy & Environmental Research	Indirect Gas-Fired Gas Turbine Generators Using Biomass Feedstock	\$1,322,566	207
58	Energy Conversion Devices, Inc.	A Hybrid Hydrogen/Battery Energy Storage System for Stand-Alone Utility Photovoltaics	\$1,507,663	203
53	Brown, Vence & Associates	Development of a Landfill Gas Cogeneration System for Integrated Power Production and Treatment of Landfill Leachate	\$582,712	202
134	The Rahus Institute	Field Performance Testing of Grid-tied Photovoltaic Systems	\$417,209	201
60	Rice Growers Electric Inc.	RGEI Biomass Energy RD&D Project	\$250,000	200
152	UAE Energy Operations Corporation	WELP Gasification Demonstration Project	\$482,575	199

Notification of Disqualification by Technical Scores

Applicant		Project Title	Amount Requested	Technical Score
173	Pan American Resources, Inc. (PAR)	Paris Renewable Energy Project	\$1,200,000	193
74	Salinas Valley Solid Waste Authority	Biomass to RDF Plant Conversion Research and Demonstration Project	\$352,218	191
72	Philip Williams & Associates, Ltd.	Reservoir Flushing Model Development	\$380,000	190
118	Plasma, Inc.	MHD VAR Project	\$900,000	188
175	California Wind Electric Company	Multi-Megawatt Wind Turbine Technology	\$823,637	187
170	California State University - Sacramento	Development of Solar PV Holographic System Technology	\$1,249,365	185
130	Joseph Bland	Solar-Powered Valved Cell Engine	\$199,975	182
183	Renewable Energy Concepts, Inc.	Light Duty Electric Vehicle Photovoltaic Charging Station	\$145,200	181
57	LM Manufacturing, Ltd	Liquid Metal MHD Generator Demonstration	\$470,768	179
94	PMC Production LLC	BioEnergy 2000- Renewable Energy: Biomass-to-Electricity	\$350,265	178
182	Renewable Energy Concepts, Inc.	Low Speed Electric Vehicle Photovoltaic Charging Station	\$132,500	177
27	Brown, Vence & Associates, Inc.	Landfill Gas Processing/ Fuel Cell System	\$849,316	171
169	Agripower, Inc.	Completion and Testing of the Alpha Unit Agripower Modular Biomass Power System	\$724,500	169
48	ARCADIS Geraghty & Miller, Inc.	Power Generation from Methanol Produced by Innovative Biomass Gasification	\$378,379	169
45	Reflective Energies	The Bio-Gas Microturbine	\$1,000,000	164
161	University of California - Riverside	Development, Demonstration, and Analysis of the Hynol Process for Renewable Energy Production	\$406,377	162
141	Green Power Institute/Pacific Institute	Cost Shifting Measures for Biomass Power Production	\$90,000	161
95	Gridwise Engineering Company	Residential Solar Thermal Electric Power System	\$945,038	156
145	Resource Insight	Turning Non-Energy Benefits into Biomass Revenues	\$358,958	154

Notification of Disqualification by Technical Scores

Applicant		Project Title	Amount Requested	Technical Score
70	Arthur D. Little, Inc.	Building Integrated Photovoltaic Assessment for the California Energy Commission	\$130,004	145
26	XENERGY, Inc.	Proposal to Perform a Comprehensive Assessment of the State of Art of Solar Multistage Flash (MSF) Distillation for Sea	\$197,000	129
71	Wang NMr, Inc.	Demonstration of Flywheel Energy Storage with Residential Rooftop Photovoltaics	\$1,296,000	124
59	Solar Utility Company, Inc.	Development and Demonstration of a Residential 100 kW Building-Integrated Photovoltaic Viability Model	\$500,000	124
15	Shasta College	Shasta College Bio-generation Power Plant	\$1,986,998	116
159	U.S. Forest Service - Tahoe National Forest	Codfish Biomass Renewable Energy Project	\$349,178	98

Notification of Disqualification by Eligibility, Completeness Or Feasibility

Applicant	Project Title	Amount Requested
Energy Related Environmental Research		
11 Engine Corporation of America	Advanced Engine	\$3,410,000
97 The BOC Group, Inc.	Low temperature oxidation of NOx, using the LoTOx system on a fluid catalytic cracker system	\$750,000
5 Nicholas Tzugaris	Tzugaris Water Cooler System	\$0
Environmentally Preferred Advanced Generation		
64 SRI International	High Temperature PEM Fuel Cell System with a Multifuel Capability	\$1,322,739
87 Standard Fuel Cell	Standard Fuel Cell Project	\$186,783
89 University of California - Irvine	Colliding Beam Fusion Reactor Concept Development Project	\$1,156,471
33 AlliedSignal Power Systems, Inc.	Environmental and Efficiency Enhancements through Turbo Generated Cogeneration with the incorporation of a Turbine Ceramic Wheel	\$1,571,671
62 University of Southern California	Direct Oxidation and Regenerative Fuel Cells	\$1,699,128
140 Clean Energy Systems, Inc.	Unique Steam Generator Demonstration	\$1,107,365
3 ATR Corporation	Internal Combustion Engine with Homogeneous & Heterogeneous Charge	\$0
Renewables		
43 Windlite Corporation	Development of an Advanced Hybrid Energy System for Distributed Generation	\$679,339
167 Windflower Corporation	Use of Internet and Intranet to Increase Wind Turbine Efficiency and Reduce Operation and Maintenance Costs	\$996,000
18 APS Technology	High Temperature Stator for Geothermal	\$245,997
166 Windflower Corporation	Production of 3 Small Wind Turbines for Boat, Home and Hotel or Small Factory Application	\$1,985,000
30 SunCal Corporation	SunCal 2000	\$1,500,000

Applicant	Project Title	Amount Requested
31 TPI Composites Rd.	Blade Manufacturing Improvements 56-100 Turbine Blades	\$249,963
130 Joseph Bland	Solar-Powered Valved Cell Engine	\$199,975
162 Peninsula Energy Partners	Demonstration of APS Digester to Produce Heat and Power Using Rice Straw	\$504,329
1 The Motor - Machine	Prototypes	\$0
108 Bio Chemical Technology Aerospace	Wind Turbine Advanced Composite Blade Design	\$801,660
112 Louisiana-Pacific Corp.	Urban Wood Contaminate Sorter	\$840,000
8 Sharp Energy, Inc.	Renewable Energy From California Dairies	\$136,850
137 Pinnacle Biotechnologies International	Validation of the HSAD Process for Producing Energy and Compost from Wastes	\$1,249,242
72 Philip Williams & Associates, Ltd.	Reservoir Flushing Model Development	\$380,000
143 ARCADIS Geraghty & Miller	Sacramento Valley Biomass Ethanol Power Plant	\$514,232
107 Windflower Corporation	Production of Two New Wind Turbine Technologies	\$2,795,000